



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/966,713      | 09/28/2001  | Marc Petit-Huguenin  | PX8S.265PA          | 6397             |

7590 12/08/2006  
Crawford PLLC  
Suite 390  
1270 Northland Drive  
St. Paul, MN 55120

EXAMINER

NG, CHRISTINE Y

ART UNIT PAPER NUMBER

2616

DATE MAILED: 12/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/966,713

Applicant(s)

PETIT-HUGUENIN ET AL.

Examiner

Christine Ng

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16 and 17 is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 7 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7 recites the limitation "packet-communicating telephony endpoint devices" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim.

Claim 7 recites the limitation "the remote PSTN communications device" in lines 21-22. There is insufficient antecedent basis for this limitation in the claim.

Claim 8 recites the limitation "packet-communicating telephony endpoint devices" in line 7. There is insufficient antecedent basis for this limitation in the claim.

Claim 8 recites the limitation "packet-communicating telephony endpoint devices" in line 9. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Art Unit: 2616

4. Claims 7, 8, and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,674,745 to Schuster et al.

Referring to claim 7, Schuster et al disclose in Figure 1 for use in an environment including a plurality of packet-based telephony endpoint devices (ITG 18,20), a packet-based telephony system (VOIP over IP network 19) for establishing audio communications between two parties via the plurality of packet-communicating telephony endpoint devices, a plurality of PSTN communication devices (10,12,14,16) and a plurality of PSTNs (22,24); the system comprising:

A first endpoint device (ITG 18) and a second endpoint device (ITG 20) each having:

A packet-based interface (Figure 2, network interface 36) for establishing packet-based communications between the first and second endpoint devices. Refer to Column 5, lines 12-26 and lines 36-57.

An audio arrangement (Figure 2, telephone interfaces 34, modems 32 and network interface 36) capable of producing and receiving sound for communications. The components of the ITG transmit and receive digitized audio signals. Refer to Column 5, lines 12-26 and lines 36-57.

The second endpoint device (ITG 20) having a PSTN interface (Figure 2, telephone interface 34) for establishing a connection between the second endpoint device and a remote PSTN communication device (14), the remote PSTN communication device having an audio arrangement (microphone and speakers;

Art Unit: 2616

Column 4, lines 41-47) capable of producing and receiving sound for communications.

Refer to Column 5, lines 12-26 and lines 36-57.

The first endpoint device and the second endpoint device effecting communications between two parties by using:

The packet-based interfaces of the first endpoint device and the second endpoint device to establish packet-based communications therebetween. Refer to Column 5, lines 12-26 and lines 36-57; and Column 8, lines 58-65.

The PSTN interface of the second endpoint device to establish audio communications between the first endpoint device (ITG 18) and the remote PSTN communication device (14) using the audio arrangement of the remote PSTN communications device and the first endpoint device and in response to receiving a PSTN identifier (phone number) corresponding to the remote PSTN communication device. Refer to Column 8, lines 26-64.

Referring to claim 8, Schuster et al disclose in Figure 1 that the database arrangement (AMS 40) is adapted to determine a preferred path for the audio communications from the first endpoint device (ITG 18) to the remote PSTN communication device (14), the database arrangement being separated situated from the first endpoint device (AMS 40 is not in ITG 18) and adapted to uniquely correlate each remote PSTN communication device (10,12,14,16) with one of the plurality of packet-communicating telephony endpoint devices (ITG 18,20), and the preferred path includes a destination endpoint device (ITG 20) wherein the destination endpoint device is one of the plurality of packet-communicating telephony endpoint devices being

Art Unit: 2616

correlated to the PSTN communication device (14). AMS 40 associates each ITG 18,20 with the devices 10,12,14,16 that it serves. Refer to Column 4, lines 19-40; Column 6, lines 26-38; Column 7, lines 42-59; and Column 10, line 17 to Column 11, line 12.

Referring to claim 11, Schuster et al disclose in Figure 1 a local PSTN (22) coupled between the first endpoint device (ITG 18) and a local PSTN device (10), wherein the local PSTN device is adapted to designate an identifier (phone number) associated with the destination audio interface (14) and communicate the identifier to the first endpoint device (ITG 18) through the local PSTN (22), and the first endpoint device (ITG 18) is adapted to select the destination audio interface (14) responsive to the identifier designated by the local PSTN device (10). Refer to Column 8, lines 26-64.

5. Claims 12-15 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,477,164 to Vargo et al.

Referring to claim 12, Vargo et al disclose in Figure 1 a method of sharing resources of a broadband telephony system using an originating endpoint device (transmux 124) coupled between a broadband data network (Internet network 132) and a local audio interface (102) adapted to communicate an audio signal (IP telephony call), the originating endpoint device adapted to select a destination audio interface (104) for delivery of the audio signal, the destination audio interface being one of a plurality of remote audio interfaces (102,104). Refer to Column 3, line 32 to Column 4, line 4, line 44. The method comprises:

Registering with a registrar database arrangement (Figure 6, hashing table 606), information from a plurality of user-provided gateways (114,116), each gateway coupled

Art Unit: 2616

to a broadband data network (Internet network 132) and one of a plurality of regional telephone networks (PSTN 106 or 108), and each of the plurality of regional telephone networks coupled to more than one gateway (each PSTN is indirectly coupled to both gateways 114,116 through Internet network 132). Refer to Column 6, lines 24-34.

Storing in the registrar database arrangement correlation information associating each of a plurality of audio interfaces (102,104) and each gateway (114,116) with one of the plurality of regional telephone networks (PSTN 106,108). As shown in Figure 2, a gateway voice packet 142 is associated with a destination PSTN address 204, a destination gateway address 306, and a destinations transmux address 308. The destination gateway address 306 and the destination transmux address 308 are derived based on the phone number within the destination PSTN address 204. This information is derived from a hashing table (Figure 6, 606) in the originating transmux 124 to order to determine the path to the destination. Refer to Column 4, lines 58-64; Column 5, lines 5-10; and Column 6, lines 24-34.

Exchanging with a plurality of other users, use of one user-provided gateway (originating gateway 114) as a remote network-terminating gateway for access to the registrar database and use of other user-provided gateways (destination gateway 116) as remote terminating gateways. An originating gateway 114 accesses the registrar database in the originating transmux 124 to obtain the destination transmux and destination PSTN addresses in order to route the call over the IP network. The destination gateway 116 serves as a gateway to the destination PSTN 108. Refer to Column 4, lines 13-17 and lines 58-64.

At the originating endpoint device (transmux 124), communicating audible signals with a user (user of 102) and communicating representative audio signals with the broadband data network independent of any of the regional telephone networks. A voice conversation is transmitted from phone 102 to phone 104. PSTN voice packets are digitized at gateway 114 and sent to transmux 124 to the destination end using the IP network. Refer to Column 3, line 32 to Column 4, line 4, line 44.

Referring to claim 13, Vargo et al disclose that the method further comprises:

Selecting a destination audio interface (104).

Routing a request from an originating gateway (114) to the registrar database (in transmux 124) for access to the destination audio interface (106). As shown in Figure 2, a gateway voice packet 142 is associated with a destination PSTN address 204, a destination gateway address 306, and a destination transmux address 308. The destination gateway address 306 and the destination transmux address 308 are derived based on the phone number within the destination PSTN address 204. This information is derived from a hashing table (Figure 6, 606) in the originating transmux 124 to order to determine the path to the destination. Refer to Column 4, lines 58-64; Column 5, lines 5-10; and Column 6, lines 24-34.

Determining a preferred network path from the originating gateway to the destination audio interface, the preferred network path including a destination gateway (116), the destination gateway being one of the plurality of user-provided gateways (114,116) associated with the regional telephone network (PSTN 108) associated with the destination audio interface. Refer to Column 3, line 32 to Column 4, line 4, line 44.



Referring to claim 14, Vargo et al disclose that the method further comprises restricting use to the plurality of other users, of a user's gateway as a remote network-terminating gateway to a pre-determined maximum elapsed time within a periodic interval. Vargo et al disclose in Figure 1 that at the originating gateway 114, a number of gateway subpackets are concatenated together to form a gateway voice packet 142. The gateway voice packet 142 is then sent to the originating transmux 124. The gateway subpackets may be sent to the originating transmux 124 after a predetermined period of time has elapsed, regardless of how many gateway subpackets have been concatenated. The originating transmux 124 then sends the packets across Internet network 124 to transmux 126 and then to destination gateway 116. Refer to Column 5, lines 5-21 and Column 6, lines 24-34.

Referring to claim 15, Vargo et al disclose that the method further comprises restricting use to the plurality of other users, of a user's gateway as a remote network-terminating gateway to a pre-determined maximum number of calls. Vargo et al disclose in Figure 1 that at the originating gateway 114, a number of gateway subpackets are concatenated together to form a gateway voice packet 142. The gateway voice packet 142 is then sent to the originating transmux 124. The transmux subpackets may be sent to the destination transmux 126 after a predetermined number of transmux subpackets are linked together. The destination transmux 126 then sends the packets to destination gateway 116. Refer to Column 5, lines 5-21 and Column 6, lines 24-34.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1, 2, 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,674,745 to Schuster et al in view of U.S. Patent No. 6,954,454 to Schuster et al ('454).

Referring to claim 1, Schuster et al disclose in Figure 1 a broadband telephony system, comprising:

A plurality of remote endpoint devices (ITG 18,20) coupled to a broadband data network (IP network 19).

A plurality of remote PSTNS (22,24) coupled between the plurality of remote endpoint devices (ITG 18,20) and a plurality of remote audio interfaces (10,12,14,16), each of the audio interfaces including a transducer (microphone and speakers; Column 4, lines 41-47) to communicate audible signals with a user, each remote endpoint device being coupled to one remote PSTN (ITG 18 is connected to PSTN 22), each remote PSTN being coupled to more than one remote endpoint device (PSTN 22 is connected to ITG 18,20), each remote PSTN being coupled to at least one (2) remote audio interface (PSTN 22 is connected to devices 10,12), and each remote audio interface being coupled to one remote PSTN (devices 10,12 are connected to PSTN 22).

An originating endpoint device (ITG 18) coupled between the broadband data network and a local audio interface (10) adapted to communicate an audio signal (IP telephony call), the originating endpoint device adapted to select a destination audio interface (14) for delivery of the audio signal, the destination audio interface being one of the plurality of remote audio interfaces. Refer to Column 8, lines 26-65.

A database arrangement (AMS 40) adapted to determine a preferred path for the audio signal from the originating endpoint device (ITG 18) to the destination audio interface (14) by correlating each remote audio interface (10,12,14,16) with one of the plurality of remote PSTNS (22,24), and correlating each of the plurality of remote endpoint devices (ITG 18,20) with one of the plurality of remote PSTNS (22,24), the database arrangement being separately situated from the originating endpoint device (AMS 40 is not in ITG 18). AMS 40 associates each ITG 18,20 with the PSTN 22,24 in which the ITG is located. The AMS 40 also associates the NPA-NXX telephone number of the devices 10,12,14,16 with a PSTN 22,24 serving that NPA-NXX combination. Refer to Column 4, lines 19-40; Column 6, lines 26-38; Column 7, lines 42-59; and Column 10, line 17 to Column 11, line 12.

Schuster et al do not disclose that the originating endpoint device (ITG) includes an audio processing circuit adapted to receive uncoded analog signals corresponding to an audio signal.

Schuster et al ('454) disclose in Figure 2 an ITG 150 that connects a CO switch 120 to an IP router 140. The ITG 150 converts analog voice calls from the CO switch 120 into real time protocol RTP IP packets for IP router 140. The ITG 150 also converts

Art Unit: 2616

RTP IP packets from the IP router 140 into analog voice calls for the CO switch 120.

Refer to Column 7, lines 44-55. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the originating endpoint device (ITG) includes an audio processing circuit adapted to receive uncoded analog signals corresponding to an audio signal. One would be motivated to do since an ITG can convert uncoded analog audio signals into packets for transmission across an IP router.

Referring to claim 2, Schuster et al disclose in Figure 1 that the preferred path includes a destination endpoint device (ITG 20) wherein the destination endpoint device is one of the plurality of remote endpoint devices (ITG 18,20) being correlated to a destination PSTN (24), the destination PSTN being one of the plurality of remote PSTNs (22,24) being uniquely correlated to the destination audio interface (14). Refer to Column 8, lines 26-65. Furthermore, Schuster et al disclose that each of the audio interfaces communicate uncoded analog signals directly with a user, and that the audio processing circuit of the originating endpoint device is adapted to communicate with the broadband data network (IP network 19) independent of any of the PSTNs. Refer to the rejection of claim 1. Devices 10 and 14 may be analog phones, since the PSTNs 22,24 convert the transmitted and received digital signals back to audio for each respective party to understand. Each ITG 18,20 also receives analog signals, digitizes voices signals, and then transmits the packet streams. Refer to Column 4, lines 41-47 and Column 8, lines 58-65.

Referring to claim 5, Schuster et al disclose in Figure 1 a local PSTN (22) coupled between the originating endpoint device (ITG 18) and the local audio interface (10), wherein the local audio interface is adapted to designate an identifier (phone number) associated with a destination audio interface (14) and communicate the identifier to the originating endpoint device (ITG 18) through the local PSTN (22), and the originating endpoint device (ITG 18) is adapted to select the destination audio interface (14) responsive to the identifier designated by the local audio interface (10). Refer to Column 8, lines 26-64.

Referring to claim 6, Schuster et al disclose in Figure 1 that the destination audio interface (14) is coupled to the destination endpoint device (ITG 20). Refer to Column 8, lines 26-64.

8. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,674,745 to Schuster et al in view of U.S. Patent No. 6,954,454 to Schuster et al ('454), and in further view of U.S. Patent No. 6,873,616 to Fedyk et al.

Referring to claim 3, Schuster et al do not disclose that the path is a cost-preferred path.

Fedyk et al disclose that an exit gateway (Figure 1, G1) connected to a source end point (Figure 1, SEP 12) stores a database (Figure 2b). Each entry of the database identifies a cost associated with reaching different destinations through different gateways. The processor of the database selects the gateway through which the destination can be reached at the lowest cost. Refer to Column 2, lines 24-26; Column 4, line 31 to Column 5, line 7; and Column 5, lines 46-67. Therefore, it would have been

Art Unit: 2616

obvious to one of ordinary skill in the art at the time the invention was made to include that the path is a cost-preferred path; the motivation being in order to choose the cheapest path to save money and bandwidth usage.

Referring to claim 4, Schuster et al does not disclose that the path includes a pre-defined path portion.

Fedyk et al disclose that an exit gateway (Figure 1, G1) connected to a source end point (Figure 1, SEP 12) stores a database (Figure 2b). Each entry of the database identifies a cost associated with reaching different destinations through different gateways. The processor of the database selects the gateway through which a selected destination can be reached at the lowest cost. An exit gateway G1 is given two possible pre-defined paths (through gateways G3 or G7) to reach a destination (B1, C1, D1, D2). Refer to Column 2, lines 24-26; Column 4, line 31 to Column 5, line 7; and Column 5, lines 46-67. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the path includes a pre-defined path portion; the motivation being so that the gateway can choose from pre-defined paths which path is optimal, thereby saving resources since the gateway does not need to generate different possible paths each time.

9. Claims 9 and 10 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,674,745 to Schuster et al in view of U.S. Patent No. 6,873,616 to Fedyk et al.

Referring to claim 9, refer to the rejection of claim 3.

Referring to claim 10, refer to the rejection of claim 4 and the rejection of claim 2.

***Allowable Subject Matter***

10. Claims 16 and 17 are allowed.

***Response to Arguments***

11. Applicant's arguments filed September 29, 2006 have been fully considered but they are not persuasive.

Referring to the 112(2) arguments (page 8, lines 12-21): Claim 7, lines 1-2 disclose "packet-based telephony endpoint devices", not "packet-communicating telephony endpoint devices". Claim 7, line 12 disclose a "remote PSTN communication device", not a "remote PSTN communications device".

Referring to the argument of independent claim 1 (page 8, line 22 to page 9, line 23): Refer to the new rejection of claim 1.

Referring to the argument of independent claim 7 (page 9, line 24 to page 10, line 5): Schuster et al disclose in Figure 1 that the first endpoint device (ITG 18) and a second endpoint device (ITG 20) each have an audio arrangement (Figure 2, telephone interfaces 34, modems 32 and network interface 36) capable of producing and receiving sound for communications. The components of the ITG transmit and receive digitized audio signals. By transmitting and receiving digitized audio signals, the ITG's are producing and receiving sound for communication, since the digitized audio signals are sounds. Refer to Column 5, lines 12-26 and lines 36-57.

Referring to the argument of independent claim 12 (page 10, lines 6-21): Vargo et al discloses in Figure 1 the limitation of communicating audible signals with a user (user of 102) at the originating endpoint device (transmux 124). The originating

Art Unit: 2616

gateway 114 sends voice data from user 102 to the originating transmux 124 for delivery to the destination. As shown in Figure 1, the arrows between the user 102, originating gateway 112, and originating transmux 124 are bidirectional, which implies that communication between the devices goes both ways. Therefore, voice data can also be sent from the originating transmux 124 to the originating gateway 114 and finally to the user 102. Refer to Column 4, lines 6-24.

### ***Conclusion***

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine Ng whose telephone number is (571) 272-3124. The examiner can normally be reached on M-F; 8:00 am - 5:00 pm.



If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

C. Ng CW  
November 24, 2006

A handwritten signature in black ink, appearing to read 'Huy D. Vu', with a long horizontal flourish extending to the right.

**HUY D. VU**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2600**